REMARKS

Claims 16, 17, 19, 24-26, 28, 30-33, 37, 38, 41-43, 45, 50, 70 and 73-76 were considered in the Final Office action. Claims 16, 19, 24-26, 28, 30-33, 37, 38, 42, 43, 45, 50, 70 and 73-76 are now pending in the above-referenced patent application. Claims 16 and 70 have been amended. Applicants respectfully request further consideration of these claims, in view of the amendments set forth above and the following remarks.

Examiner Interview

Applicants thank the Examiner for the courtesy of an interview on October 26, 2005, during which independent claims 16 and 70 were discussed as well as the Van Tol and Lundeen references. It was agreed that the rejection over Lundeen would be overcome in view of Applicants remarks, which are included herein. It was also discussed that the amendment made herein to claim 70 would overcome the written description rejection of that claim.

Response To 112 Written Description Rejections

Claim 70 stands rejected under 35 U.S.C. § 112 as allegedly failing to meet the written description requirement. Applicants traverse these rejections.

Claim 70

Claim 70 stands rejected under 35 U.S.C. §112, 1st paragraph, as allegedly containing subject matter which was not described in such a way as to reasonably convey to one of skill in the art that Applicants were in possession of the claimed invention. Specifically, the Final Office action states that certain aspects of the invention are broadly defined (*e.g.*, determining the polymerization performance of each of the potential catalysts with the at least first monomer in the first reaction), and asserts that the disclosure does not support the claimed genus or substantial portion thereof, and is therefore inadequate to show possession of the invention.

Applicants have amended claim 70 to require that determining the polymerization performance of each of the potential catalysts with the at least first monomer in the first reaction is accomplished by analyzing products of the first reaction. This amendment should overcome the present rejection.

For at least these reasons, Applicants request that the rejections be withdrawn

Response To Obviousness Rejection

Claims 16, 19, 24-26, 28, 30-33, 37, 38, 42-43, 45, 50, 70 and 73-76 are rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over various references.

Claim 70

Claim 70 remains rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over Van Tol et al. (WO 97/42232) in view of Willson (WO 97/32208). Applicants traverse the rejections on the ground that a prima facie case of obviousness has not been established because not all of the claim limitations are taught or suggested by the combination.

Van Tol is directed to a process for the polymerization of alpha-olefins. The process includes contacting at least one alpha olefin with a catalyst and a co-catalyst under polymerization conditions. Van Tol describes a specific group of catalysts, and in the examples describes a polymerization of octene using ($C_5Me_4(CH_2)_2NBu_2TiCl_2$) as a catalyst. *See Van Tol*, pages 26-28. Van Tol also describes a polymerization of octene and 1-octadecene using a **different** compound – $Et(Cp(iPr)_3)NMe_2TiCl_2$ as a catalyst, *Van Tol, page 28-31*, and a polymerization of 1-octene in the presence of ethylene using **yet a third, different** catalyst – $EtCp^*NMe_2TiCl_2$. *Van Tol*, page 31.

Willson is directed to a multicell holder for assembling and testing a plurality of catalysts as cells, spots or pellets, in a variety of reactions, including polymerizations.

Claim 70 of the present invention is directed to a method for screening potential catalysts for polymerization performance for at least a second monomer, using a first monomer, and includes concurrently reacting in a first reaction, in an array format of potential catalysts, at least a first olefin monomer (other than ethylene) and not the second monomer, determining the polymerization performance of at least 8 different potential catalysts reacted

with the first monomer in the first reaction by analyzing the reaction products, and polymerizing the first and second monomers as copolymers or higher-order polymers in a second reaction using one of the catalysts in the array based upon the polymerization performance of the catalyst.

It should be noted that the Final Office action failed to respond to many of Applicants' arguments made in the latest response in view of amended claim 70. The response to arguments appears to be a copy of the original arguments presented in rejecting the claims, and discusses limitations not even in the claim and arguments not made in the latest response. Since the response failed to address Applicants' arguments, they are reiterated herein.

Both the Van Tol and Willson references fail to teach identifying olefin polymerization catalysts for further testing as required in the claim and conducting a further olefin polymerization reaction with those identified catalysts using different sets of monomers. The co-polymerizations of Van Tol (Examples II and III) involve distinctly **different** catalysts than the catalyst used to polymerize octene (Example I). Van Tol **does not** perform any additional polymerizations with other monomers using the same catalysts used to polymerize the first monomer based on the initial polymerization results, as is required in claim 70.

In the Final Office action, the statement in Van Tol in Example III, "This example shows that the polymerization of higher olefins is also possible in the presence of a lower olefin, such as ethylene, under effective polymerization conditions using the catalyst system of the present invention." *Van Tol, pages 31-32*, is relied upon to teach or suggest further olefin polymerization reactions as defined in the present invention. Applicants submit that this reliance is misplaced. That statement does not teach or suggest that the specific catalyst of Example III was either used in an earlier reaction to polymerize a first monomer or will be used in a later reaction using different monomers. That statement is merely a suggestion that maybe some members of the catalyst family described in the reference could be used for similar co-polymerizations involving ethylene and higher olefins. This statement does not teach or suggests that the specific catalyst of Example III can be used in a second reaction involving 1-octene (a first olefin other than ethylene) and a second monomer (not ethylene, since the reaction in Example III includes ethylene and the present claims require that the second monomer not be involved in the first reaction). Instead, Van Tol is pontificating

generalities based upon a single polymerization for a family of catalysts for that polymerization.

In contrast, the claims of the present invention are directed to screening methods which include reacting specific potential catalysts in a first polymerization with a first monomer and not a second monomer, evaluating the reactions, and reacting one or more of the potential catalysts with the first and second monomer in a second reaction based upon the evaluation of the first reaction. Thus, the statement of Van Tol can in no way be extrapolated to teach or suggest the methods of the presently pending claims.

With regards to the Final Office action assertion that Van Tol uses a first alpha olefin other than ethylene as a reference for evaluating further polymerizations based upon that order of the examples, Applicants respectfully disagree. There is no basis, either in law or in fact, for the conclusion that either the order of the examples suggests timing, or that the order of examples indicates a series of progressive screens. Van Tol simply attempted three different polymerizations with three different catalysts.

The Final Office action appears to be relying on Applicants' specification to improperly extrapolate the teachings of Van Tol, specifically asserting that the order of the examples teaches successive screening of catalysts, without proper motivation for such extrapolation.

In view of the repeated warnings by the Federal Circuit against hindsight reconstruction (*i.e.*, against finding the required motivation in the guidance of the instant specification), Applicants respectfully submit that such extrapolation is improper under the law. *See*, for example, *Grain Processing Corp. v. American Maize-Products Co.*, 5 USPQ2d 1788 (Fed. Cir. 1988) (stating that obviousness cannot be established by merely showing that each element of the patented products may be found somewhere in the prior art). *See also In re Vaeck*, 20 USPQ2d 1438 (Fed. Cir. 1991), and *In re Dembiczak*, 50 USPQ2d, 1614 (Fed. Cir. 1999). *See* also *In re Kotzab*, 54 USPQ2d 1308 (Fed. Cir. 2000) (holding that an invention was not obvious, even though based on technologically simple concepts from a combination of known elements, since the there was an absence of a specifically-identified understanding within the knowledge of a skilled artisan that would have motivated one to make the particular claimed invention).

Applicants also feel that additional assertions made in the Final Office action do not cure the deficiencies of the references.[1] [2]

For at least these reasons, all of the pending claims are patentable over Van Tol in view of Willson.

Therefore, Applicants assert that a prima facie case of obviousness does not exist for the pending claims in view of the references relied upon in the Final Office action and request the rejection be withdrawn.

Claims 16, 19, 24-26, 28, 30-33, 37, 38, 41-43, 45, 50, 70 and 73-76 (Lundeen and Weinberg)

Claims 16, 19, 24-26, 28, 30-33, 37, 38, 42-43, 45, 50, 70 and 73-76 are rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over U.S. Patent No. 5,236,998 to Lundeen et al. (hereafter "Lundeen") in view of U.S. Patent 6,756,195 to Weinberg et al. (hereafter "Weinberg"). Applicants traverse the rejections on the ground that a prima facie case of obviousness has not been established because not all of the claim limitations are taught or suggested by the combination. Claims 16, 19, 24-26, 28, 30-33, 37, 38, 41-43, 45, 50 and 70 are not obvious in light of Van Tol and Willson.

The law is clear that "to establish a *prima facie* case of obviousness, all the claim limitations must be taught or suggested by the prior art." *See* MPEP Sec. 2143.03; *In re Royka*, 180 USPQ 580 (CCPA 1974). As discussed below, however, technically and commercially significant features of the presently-claimed inventions are not taught or suggested by the prior art.

Lundeen is directed to a process for making a blend of polyethylene polymers. The process includes polymerizing ethylene alone in one reactor with a catalyst, polymerizing ethylene and a co-monomer in a second reactor with a catalyst, and combining the two outlet

[1] For example, the Office action relies upon the statement in the Abstract of Van Tol, which states "The present process for the polymerization of polymers of alpha-olefins involve contacting, under polymerization conditions, at least one α-olefin. . . with a catalyst. . ." The Office action asserts that this indicates that this statement represents a library. Even if, arguendo, this were considered to represent a library of polymerization catalysts, the Van Tol reference along with Willson fail to disclose or teach screening catalyst arrays in the manner recited in independent claims 16, 42 and 70.

[2] Furthermore, with regards to the assertion in the Office action that Van Tol is not limited to its examples and as a whole and can be extrapolatable to performing various examples in parallel, Applicants agree that the reference is not limited to its examples, but submit that this does not change the fact that Van Tol does not disclose or teach a second reaction step utilizing selected potential catalysts from the first reaction and a second monomer based upon the properties of the polymerized samples.

streams from the reactors in a third reactor with no catalyst where the polymerization is completed. *See Abstract.* Lundeen is not directed to screening potential polymerization catalysts for polymerization

Both the Lundeen and Weinberg references fail to teach identifying olefin polymerization catalysts for further testing as required in the claims, including, for example, claims 16 and 42, and conducting a further olefin polymerization reaction with those identified catalysts using different sets of monomers. The co-polymerization and simultaneous homopolymerization of Lundeen do not involve screening of catalysts. There is no identification and further testing of one or more of a set of catalysts utilized in a first reaction. Lundeen does not perform any additional polymerizations with other monomers using the same catalysts used to polymerize the first monomer based on the initial polymerization results, as is required in independent claims 16, 42 and 70. Additionally, Lundeen's homopolymerization is with ethylene, whereas the independent claims of the present invention require the first reaction to exclude ethylene.

The examples in Lundeen do not perform catalyst screening as is recited in the claims. *See Specification, page 15, lines 3-7*(emphasis added):

> Because the invention is most useful as a screen—*i.e.*, respectively, qualifying and eliminating respective groups of catalysts—a minimum of two or three parameters (such as catalyst composition, activator composition, ratios of components, scavengers, additives, modifiers, olefins and/or concentration) are usually considered in each array.

The present claims are directed to screening catalysts and require selecting one or more catalysts from a first reaction based on performance and reacting them in a second reaction. In Lundeen, the catalysts are not evaluated or screened. They are used in every reaction with other parameters being varied. It is not even disclosed that the variations are a screen or an optimization. The examples are merely variations on the polymerization process to show the scope of the invention in Lundeen. There is no basis to conclude that the examples have a timely order in them to signify screening or optimization. Lundeen is simply directed to forming a polymer blend by performing two polymerizations in parallel and combining the products.

Applicants further submit that Weinberg does not cure Lundeen's deficiencies. Weinberg does not teach or suggest screening polymerization catalysts in the manner as claimed in the present invention.

Claims 16, 19, 24-26, 28, 30-33, 37, 38, 41-43, 45, 50, 70 and 73-76 (Van Tol, Willson and Weinberg)

Claims 16, 19, 24-26, 28, 30-33, 37, 38, 42-43, 45, 50, 70 and 73-76 are rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over Van Tol, Willson and Weinberg. Tol. The same arguments discussed above apply to this rejection. Van Tol fails to recite specific elements of the claims, which Willson and Weinberg fail to provide. None of the references alone or in combination recite the screening methods as claimed.

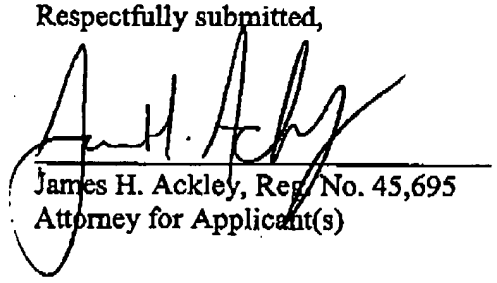
Applicants request the rejections be withdrawn.

CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

The Examiner is hereby authorized to charge the fees required in connection with this Amendment H to Deposit Account No. 50-0496, in accordance with the Transmittal submitted herewith. The Examiner is also authorized to debit any other fees required in connection with this application, or to credit any overpayment of fees in connection with this application to Deposit Account No. 50-0496.

Respectfully submitted,



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